

SYSTEM:OS - DIALOG OneSearch File 155:MEDLINE(R) 1966-2003/Mar W1 (c) 2003 BIOSIS
File 5:BIOSIS Reviews(R) 1969-2003/Mar W1 (c) 2003 BIOSIS

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Set Items Description

S1 214 (MU OR M) (W) CONOTOXIN
S2 148 RD unique items

S3 2279 STRIATUS

S4 1 S2 AND S3

S5 5449 CONOTOXIN

S6 19 S3 AND S5

S7 19 ID (sorted in duplicate order)

S8 0 (S3.2)

S9 3 S3(NJ2 OR S32

S10 89 'S3(NJ2 OR 'S32'

S11 0 S5 AND S10

7/6/1 (Item 1 from file: 5) DIALOG(R)File 5:BIOSIS Previews(R) (c) 2003 BIOSIS. All its. reserv.
10345420 BIOSIS NO.: 199698800338 Scorpion toxins affecting sodium current inactivation bind to distinct homologous receptor sites on rat brain and insect sodium channels.

AUTHOR: Gordon Dalia(a); Martin-Ecaudaire Marie-France; Cestele Sandrine; Kopeyan Charles; Cartier Edmond; Khalifa Rym Ben; Pelhate Marcel; Rochat Hervé
AUTHOR ADDRESS: (a)Lab. Biochem., CNRS URA 1455, Jean Roche Inst., Bd. Pierre Darnard, 13916 Marseille Cedex 20*France
JOURNAL: Journal of Biological Chemistry 271 (14):p8034-8045 1996 ISSN: 0021-9258 DOCUMENT TYPE: Article
RECORD TYPE: Abstract LANGUAGE: English

ABSTRACT: Sodium channels possess receptor sites for many neurotoxins, of which several groups were shown to inhibit sodium current inactivation. Receptor sites that bind alpha- and alpha-like scorpion toxins are of particular interest since neurotoxin binding at these extracellular regions can affect the inactivation process at intramembranous segments of the channel. We examined, for the first time, the interaction of different scorpion neurotoxins, all affecting sodium current inactivation and toxic to mammals, with alpha-scorpion toxin receptor sites on both mammalian and insect sodium channels. As specific probes for rat and insect sodium channels, we used the radiolabeled alpha-scorpion toxins, Aah II and Lqh-alpha-IT, the most active alpha-toxins on mammals and insect, respectively. We demonstrate that the different scorpion toxins may be classified to several groups, according to their in vivo and in vitro activity on mammalian and insect sodium channels. Analysis of competitive binding interaction reveal that each group may occupy a distinct receptor site on sodium channels. The alpha-mammal scorpion toxins, and the anti-insect Lqh-alpha-IT bind to homologous but not identical receptor sites on both rat brain and insect sodium channels. Sea anemone toxin ATX II, previously considered to share receptor site 3 with alpha-scorpion toxins, is suggested to bind to a partially overlapping receptor site with both Aah II and Lqh-alpha-IT. Competitive binding interactions with other scorpion toxins suggest the presence of a putative additional receptor site on sodium channels, which may bind a unique group of these scorpion toxins (Bom I and IV), active on both mammals and insects. We suggest the presence of a cluster of receptor sites for scorpion toxins that inhibit sodium current inactivation, which is very similar on insect and rat brain sodium channels, in spite of the structural and pharmacological differences between them. The sea anemone toxin ATX II is also suggested to bind within this cluster.

7/6/1 (Item 1 from file: 5) 07872222 BIOSIS NO.: 000092131588 ALPHA CONOTOXINS SMALL PEPTIDE PROBES OF NICOTINIC ACETYLCHOLINE RECEPTORS 1991

7/6/2 (Item 2 from file: 155) 0834224 95103030 BIOSIS NO.: 199699204765 Calcium channel subtypes in rat brain: biochemical characterization of the high-affinity receptors for omega-conopeptides SNX-230 (synthetic MVIIc), SNX-183 (SVIB), and SNX-111 (MVIIA). Aug 1994

7/6/3 (Item 3 from file: 155) 12598876 21540680 BIOSIS NO.: 11683628 Delta-conotoxin structure/function through a cladistic analysis. Nov 6 2001

7/6/4 (Item 4 from file: 5) 13357882 BIOSIS NO.: 20100565031 delta-Conotoxin structure/function through a cladistic analysis. 2001

7/6/5 (Item 5 from file: 5) 10583622 BIOSIS NO.: 199699204767 Effects of ibogaine and norbogaine on phosphoinositide hydrolysis. 1996

7/6/6 (Item 6 from file: 5) 06280311 BIOSIS NO.: 000086114494 PHYLOGENETIC SPECIFICITY OF CHOLINERGIC LIGANDS ALPHA CONOTOXIN SI 1988

7/6/7 (Item 7 from file: 155) 05978702 89062448 PMID: 3196703 Phylogenetic specificity of cholinergic ligands: alpha-conotoxin SI. Sep 6 1988

7/6/8 (Item 8 from file: 5) 10348684 BIOSIS NO.: 996988033602 Neuroactive peptides of the marine snail, *Conus striatus*. 1996

7/6/9 (Item 9 from file: 5) 09798202 BIOSIS NO.: 199598253120 Novel alpha- and omega-conotoxins from the marine snail, *Conus striatus*. Oct 20 1992

7/6/10 (Item 10 from file: 155) 07476923 93030172 PMID: 1390774 Novel alpha- and omega-conotoxins from *Conus striatus*. 1995

7/6/11 (Item 11 from file: 5) 08744594 BIOSIS NO.: 199395033945 Novel alpha- and omega-conotoxins from *Conus striatus*. 1992

7/6/12 (Item 12 from file: 155) 08393950 95138099 PMID: 7836370 A new conotoxin affecting sodium current inactivation interacts with the delta-conotoxin receptor site. Jan 20 1995

7/6/13 (Item 13 from file: 5) 09672271 BIOSIS NO.: 199598127189 A new conotoxin affecting sodium current inactivation interacts with the delta-conotoxin receptor site. 1995

7/6/14 (Item 14 from file: 5) 100771539 BIOSIS NO.: 199595526457 A new family of Conus peptides targeted to the nicotinic acetylcholine receptor. 1995

7/6/15 (Item 15 from file: 155) 08040758 94132020 PMID: 8300586 A new neurotoxin receptor site on sodium channels is identified by a conotoxin that affects sodium channel inactivation in molluscs and as an antagonist in rat brain. Jan 28 1994

7/6/16 (Item 16 from file: 5) 09173865 BIOSIS NO.: 199497182235 A New Neurotoxin Receptor Site on Sodium Channels is identified by a Conotoxin That Affects Sodium Channel Inactivation in Molluscs and Acts as an Antagonist in Rat Brain. 1994

7/6/17 (Item 17 from file: 155) 10039018 99036623 PMID: 9819194 An O-glycosylated neuroexcitatory conus peptide. Nov 17 1998

7/6/18 (Item 18 from file: 5) 10345420 BIOSIS NO.: 199698800338 Scorpion toxins affecting sodium current inactivation bind to distinct homologous receptor sites on rat brain and insect sodium channels.

7/6/19 (Item 19 from file: 5) 12614201 BIOSIS NO.: 200000367703 Solution structure of alpha-conotoxin SI. 2000

7/7/8 (Item 8 from file: 5) DIALOG(R)File 5:BIOSIS Previews(R) (c) 2003 BIOSIS. All its. reserv.
10348694 BIOSIS NO.: 199698803602 Neuroactive peptides of the marine snail, *Conus striatus*.
AUTHOR: Cruz L J
AUTHOR ADDRESS: Marine Sci. Inst., Univ. Philippines, Quezon City** Philippines
JOURNAL: Journal of Natural Toxins 5 (1):p122 1996
CONFERENCE/MEETING: 209th American Chemical Society National Meeting on Natural Toxins Anaheim, California, USA April 2, 1995-April 7, 1996 ISSN: 1058-8108 RECORD TYPE: Citation LANGUAGE: English

7/7/9 (Item 9 from file: 5) DIALOG(R)File 5:BIOSIS Previews(R) (c) 2003 BIOSIS. All its. reserv.
09798202 BIOSIS NO.: 199598253120 Neuroactive peptides of the marine snail, *Conus striatus*.
AUTHOR: Cruz L J
AUTHOR ADDRESS: Marine Sci. Inst., Univ. Philippines, Diliman, Quezon City **Philippines
JOURNAL: Abstracts of Papers American Chemical Society 209 (1-2):pAGFD 19 1995
CONFERENCE/MEETING: 209th American Chemical Society National Meeting Anaheim, California, USA April 2-6, 1995 ISSN: 0065-7727 RECORD TYPE: Citation LANGUAGE: English

7/7/10 (Item 10 from file: 5) DIALOG(R)File 5:BIOSIS Previews(R) (c) 2003 BIOSIS. All its. reserv.
10039018 99036623 PMID: 9819194 An O-glycosylated neuroexcitatory conus peptide.
Craig A G; Zafaralla G; Cruz L J; Santos A D; Hillyard D R; Dykert J; Rivier J E; Gray W R; Imperial J; DelaCruz R G;
Sporning A; Terlau H; West P J; Yoshikami D; Oliveira B M
The Clayton Foundation Laboratories for Peptide Biology, The Salk Institute, San Diego, California 92186-5800, USA.
Biochemistry (UNITED STATES) Nov 17 1998, 37 (46) p16019-25 ISSN 0006-2960 Journal Code: 0370523
Contract/Grant No.: GM48677; GM; NIGMS Document type: Journal Article Languages: ENGLISH

We purified and characterized a novel peptide from the venom of the fish-hunting cone snail *Conus striatus* that inhibits voltage-gated K⁺ channels. The peptide, kappaA-conotoxin SVIA, causes characteristic spastic, paralytic symptoms when injected into fish, and in frog nerve-muscle preparations exposed to the toxin, repetitive action potentials are seen in response to a single stimulus applied to the motor nerve. Other electrophysiological tests on diverse preparations provide evidence that is consistent with the peptide blocking K⁺ channels. The peptide has three disulfide bonds; the locations of Cys residues indicate that the spastic peptide may be the first and defining member of a new family of *Conus* peptides, the kappaA-conotoxins, which are structurally related to, but pharmacologically distinct from, the alphaA-conotoxins. This 30 AA tricyclic toxin has several characteristics not previously observed in *Conus* peptides. In addition to the distinctive biological and physiological activity, a novel biochemical feature is the unusually long linear N-terminal tail (11 residues) which contains one O-glycosylated serine at position 7. This is the first evidence for O-glycosylation as a posttranslational modification in a biologically active *Conus* peptide. Record Date Created: 1998/12/17

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FILE LAST UPDATED: 6 Mar 2003 (20030306/ED)

L2 1 L1

L2 ANSWER 1 OF 1 CA COPYRIGHT 2003 ACS
AN 136:146437 CA
TI New members of the .mu.-conotoxin family for use in the treatment of
disease associated with sodium channel function and cDNAs encoding them
IN Olivera, Baldomero M.; McIntosh, J. Michael; Garrett, James E.; Watkins,
Maren; Cruz, Lourdes J.; Shon, Ki-Joon; Jacobsen, Richard; Jones, Robert
M.; Cartier, G. Edward; Shen, Gregory S.
PA University of Utah Research Foundation, USA; Cognetix, Inc.
SO PCT Int. Appl., 231 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE | |
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| | W: | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| | RW: | GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |
| PRAI | AU 2001082945 | A5 | 20020205 | AU 2001-82945 | 20010723 | |
| | US 2000-219619P | P | 20000721 | | | |
| | US 2000-245157P | P | 20001103 | | | |
| | US 2001-264319P | P | 20010129 | | | |
| | US 2001-277270P | P | 20010321 | | | |
| | WO 2001-US23125 | W | 20010723 | | | |
| AB | The present invention is to .mu.-conopeptides, derivs. or pharmaceutically | | | | | |

acceptable salts thereof. The present invention is further directed to the use of this peptide, derivs. thereof and pharmaceutically acceptable salts thereof for the treatment of disorders assocd. with voltage-gated sodium channels. Thus, the .mu.-conopeptides or derivs. are useful as neuromuscular blocking agents, local anesthetic agents, analgesic agents and neuroprotective agents. The .mu.-conopeptides are also useful for treating neuromuscular disorders. The invention is further directed to nucleic acid sequences encoding the .mu.-conopeptides and encoding propeptides, as well as the propeptides.